

Balance Pedagogy as a Metodological Base for Integrative-Differentiated Teaching of Rural Students

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The urgency of the issue stated in the article is stipulated by the contemporary requirements to rural schoolchildren education, i.e. rise in its availability, quality and degree of specialization. The Federal State Education Standards have set an urgent, but at the same time challenging task to reach not only subject but also meta-subject and personal results in the educational process. Rural students consistently show lower subject results in comparison with those of urban schools. There is a challenge to improve the quality of education in rural schools, which is enhanced by the requirement to gain new educational results by means of universal instructional activities. The purpose of the present article is to reveal the identity of the concept of “balance pedagogy” as a methodological base for integrative-differentiated teaching of rural students and to describe its specific didactic technologies. The leading approaches to the study of this problem are systematic, synergistic, integrative-differentiated approaches, theory of dynamic balance. The essential results of the paper are a) the author’s definition of balance pedagogy as a methodological base for integrative-differentiated teaching of rural schoolchildren and a means to improve the quality of education, personal and meta-subject results in rural schools; b) presentation of the main characteristics of the level-and-style differentiation technology in terms of modular teaching programme as a practical tool of balance pedagogy.

Keywords: balance pedagogical science, rural school, teaching, integrative differentiated approach, style differentiation technology, technology of modular teaching.

INTRODUCTION

The relevance of the study

Providing quality and effective education of rural pupils, improving their competitiveness, the formation of overall viability are the issues of national concern

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in Russia (Kamalova & Zakirova, 2015). This matter is considered a public, interdepartmental and interdisciplinary problem that needs the formulation of scientifically grounded strategy to establish and develop new approaches to teaching process in terms of peculiarities of rural educational environment and those changes typical of the whole civilization.

Integration and differentiation in their mutual inter-relation are enhanced by the changes that take place during the civilization development. In fact, any object or process of reality can be viewed, on the one hand, as a certain form of its differentiation, and, on the other hand, as an expression of integrity, unity, integration of its components. Such processes are distinctive features of pedagogical science where the issue of education integration and differentiation is becoming urgent nowadays.

The author of the article is convinced that differentiated and integrated approaches to teaching taken apart represent a sort of 'polarity'. Educational process can be fully disclosed due to integrative-differentiated approach (IDA). This approach, in particular, fulfils the function of synthesizing and implies a balance of their positive effects on the educational environment. Such a complex approach is especially urgent in the framework of teaching rural schoolchildren. Balance pedagogy reflecting a principle of dynamic balance between the united opposites is considered a theoretic methodological base for integrative-differentiated teaching in a rural school.

Research problem statement

There are some methodological contradictions in theory and practice of pedagogical science. They concern:

- the changed social economic, demographic, informational conditions of sustainment of rural general education institutions and traditional teaching which restricts educational opportunities of rural students to form key competencies, meta-subject results, modern way of thinking;
- the unity of integration and differentiation as a basic tendency in pedagogical science, particular methods, actual educational process in rural schools and failure to apply integrative-differentiated approach to teaching as the key concept of balance pedagogy;
- the integrity of the pupil's human nature and the didactic system used in rural schools with the low level of integration and differentiation, the degree of readiness to implement the profile of learning, the lack of appropriate scientific methodical approach to teaching subjects and meta-subjects;
- the new requirements to pupils' personal qualities (responsibility, independence, initiative, flexibility, diligence, creativity and others) and the understudied ways of and development monitoring of these character traits in educational process;
- different cognitive abilities of students (learning ability, motivation, brain organization cognitive processes, individual cognitive style and others), their parents' demands and unified standardized requirements stipulated in the Federal State Education Standards (FSES).

In view of the above, the study problem is the search for didactic opportunities through the pedagogical tools of balance pedagogy to provide the quality of the educational process taking into consideration such characteristic features of a rural school as a smaller number of students in class, multidisciplinary teaching, socio-cultural, economic and natural environment of an educational institution.

Essence of the notion of balance pedagogy

The phenomenon of balance, dynamic balance is understood as an integral part of pedagogy due to the fact that there are a great number of pedagogical objects and

processes which are considered the unity of the opposed principles, qualities, parties and characteristic features. The balance between the pupil's self-esteem and the external (teacher, classmate or expert's) evaluation; meta-subject and subject content of the instruction material at the lesson; collective and individual cognitive and academic activities and others are the examples of the mentioned above. The pedagogical approach aimed to study the dynamic balance between the opposites in pedagogy has been reasonably called balance pedagogy. There has been growing interest in this problem in the past decade of the 20th century due to the extensive discussion of the integrative-differentiated approach to the educational process.

The issue under study is to be viewed, on the one hand, in terms of interdisciplinary approach (integration) and, on the other hand, description of specific and peculiar characteristics (differentiation) of an educational process in Russian rural schools.

Dynamic balance is scientifically determined as a principle of functioning of complex systems, balancing static and dynamic components. Dynamics is understood as a variable flexible balance of process characteristic features. Dynamic balance implies continuous moving of the balance point, aim of the system to achieve harmony and at the same time its willingness to change this state, the balance point in case the situational conditions will change (Korobkova & Skulov, 2008).

P. Skulov formulates the major principles of the theory of "dynamic balance" (or "reasonable balance") which is understood as a methodology of integration and differentiation of knowledge of philosophy, psychology, pedagogy and teaching techniques (Skulov, 2008). The supporters of synergetics share the same opinion. V. Vasil'kova (2008) raises an issue of balance between chaos and order. From the point of view of synergetics, the most consistent combinations arise in motion, moving on the border of opposites.

When considering an educational process as a system, it becomes clear that its components are a sort of interrelated polarities. P. Skulov (2008) have distinguished 43 pairs of this kind. In systems of different levels, conflicts are caused by imbalance in inter-component and inter-system relations. Thus, teaching practice tends to subconsciously comprehend the need to harmonize the system components, it is embodied in certain didactic principles: the principle of scientific character, the principle of accessibility, the principle of combining theory and practice, the principle of collectivity and individuality in teaching. According to P. Skulov, all these principles are particular examples of the principle of dynamic balance. We agree with the view of this researcher that that it is impossible to exaggerate the significance of any part, you must acknowledge their equality and equivalence in the formed unity. Moreover, we support the idea that there is a third component in the process of components co-existence and inter-relation. It is a power which regulates the process of polarities inter-relation. In this case, in teaching process a teacher is understood as a representative of this power. The teacher, in particular, can determine when and in what way "the point of temporary balance" should be moved taking into consideration the state of students, the topic of the lesson and other differentiating factors.

The principle of dynamic balance for pedagogy is formulated in the following way: all the structural components of the pedagogical system as well as alternative aspects of all pedagogical activities of the educational process parties are supposed to be dynamically balanced. This process includes:

- balance between logically opposite characteristic features which describe the functioning of certain pedagogical system components;
- the potential or pedagogical situation to change the point of temporary balance under the action of the changed conditions;

- consistent aim of the pedagogical system to find possible balance and to maintain it due to applying both well-known and new educational resources and opportunities (Korobkova & Skulov, 2008).

Such an interpretation of this principle is connected with the principle of harmonization (statement 1), the consideration of differentiating conditions in teaching (statement 2), the integrative character of the pedagogical system (statement 3). Therefore, the principle mentioned above reflects the essence of the integrative-differentiated approach which is understood as both the subject of the study and the methodological base for the research.

The ability to achieve the dynamic balance in certain pedagogical situation is connected with the opportunity to develop pedagogical behavior and to accomplish set goals. The complex nature of this process is associated with the peculiarities of our psychological perception. A person perceives a pair of logically opposite notions not as integrity but as two competing entities one of which is as a rule brighter than the other one for the given subject due to the type of his cognitive strategy. Due to its nature, thinking is able to thoroughly detect only one of the opposite aspects, the second element being perceived indirectly, and a person with quite a high level of abstract thinking can "see" the both polarities simultaneously, i.e. perceive the process in a proper way. Thus, decisions in each certain situation should be made in a reasonable way. To add to this, the notion "dynamic balance" is synonymous to the notion "reasonable balance" (Korobkova & Skulov, 2008).

The principle of dynamic balance is connected with the principle of complementarity formulated by N. Bohr at the turn of the 19th -20th centuries. It holds that the integrity of the phenomenon requires the knowledge of mutually exclusive "complementary" classes of concepts.

Specific character of integrative-differentiated teaching of students in rural schools

The integrative-differentiated approach in terms of didactics is seen as a set of principles of integration and differentiation in an educational process, consistent result-oriented aim of the school didactic system and all its subsystems to achieve and maintain the dynamic balance between their alternative, opposite, but at the same time complementary tendencies, processes, components, aspects, qualities and characteristic features. This approach accumulates advantages of both integrated and differentiated approaches. They are not "summarized" but form a new quality, new phenomenon of pedagogy which represents all the positive sides and covers up "weak points" of these two approaches.

The synergetic principle "unity through diversity" applied to our study can be formulated **as a principle of integration through differentiation or as an integrative-differentiated approach**. It is realized in terms of methodology of educational processes study as well as in terms of didactics, particular methods and educational process in rural schools. Moreover, this principle affects both student and teacher's individual personal development. The integrative-differentiated approach to teaching fulfils scientific and theoretical and technological functions, being not only a teaching methodology in a rural school, but also a complex teaching strategy.

The educational environment in modern rural schools is characterized by integration and differentiation. These processes are connected with the tendency to create the united educational environment within an educational institution, the multi-functionality as a determinant attribute of the whole school as well as its subsystems, the inter-relation with the environment and the community, etc. We divided these processes into external and internal in relation to a rural school and its education phenomenon.

Essence of the strategy of level-and-style differentiation in learning as part of the modular training programme for a rural school

The strategy of level-and-style differentiation is a proprietary technology. Its main provisions, algorithms, and stages are described in publications of foreign scientists (Keislar, 1970; Petzold, 1985) and the scientist (Korshunova, 2008, 2014; Korshunova & Selivanova, 2014). It is quite multidimensional in its nature. It synthesizes three acclaimed in the pedagogical science and in practice strategies of education: level differentiation strategy, individualization strategy which takes into account the cognitive style of learning, and the strategy of modular training. The level-and-style differentiation as part of modular integration takes into account the main characteristic features of smaller in number rural school in terms of the concept-based and organizational teaching aspects: multidisciplinary teaching, vivid manifestation of individual personal and psychophysical peculiarities of students with an inconsiderable number in the background, closeness to nature and rural industry. The level differentiation technology takes into consideration rural students' abilities, interests, inclinations and distinguishes objectives, results, content, forms, methods, techniques, learning tools. Modular education encourages making use of positive consequences of multidisciplinary teaching (integral world view and systematic thinking), reflection of social and natural environment of rural schools, development of independence, self-education skills, time differentiation. The style technology is supposed to provide psychological comfort in an educational process due to rural student's psychological pedagogical peculiarities taken into account, for instance, observation skills, a specific way of thinking (underdeveloped analyzing, logical component and developed image thinking), inclination to perceive the world through feelings, lack of ability to quickly adapt to a new situation, etc.

METHODOLOGICAL FRAMEWORK

The study is multidimensional in its nature. Its framework of categories and concepts is connected with philosophy and science methodology, pedagogy, psychology, logics, particular methods.

The major approaches to the study issue are systematic, synergistic, integrated and differentiated approaches and theory of dynamic balance.

The inter-relation of opposite poles within the object contradiction normally makes the object turn into a qualitatively new state which is seen as a resolution or synthesis of the given contradiction and cannot be viewed as contradictory poles summarized. The qualitatively new state obeys the law of the negation of the negation with all the positive accumulated in the "old" state maintained. Therefore, when explaining the origin of the integrative-differentiated approach, we use the term "to accumulate" instead of "to summarize".

Thus, the relations between the poles of the dialectical contradiction are associated with the balance between diversity and many things in the unified thing. In our study "polarities" related to each other are understood as integration and differentiation in educational systems. Due to these processes the integrated and differentiated approaches are realized. Theory of dynamic balance lets us consider the two approaches united and promote the idea that the integrative-differentiated approach will represent a new quality and ensure a higher teaching efficiency from two points of view of:

- 1) formation the student's united view of the world, synthetic thinking;
- 2) formation subject and meta-subject competencies, students' abilities to develop, learn and realize independently.

An effective research in the sphere of pedagogy as well as particular didactics at present is impossible to do without taking into consideration psychological laws,

principles and theories. One of the promising areas of research is to identify ways of the organization of psychologically comfortable learning process in rural schools, where it is impossible not to take into account the variability of the representation of psychological types in class (Zaykin, 1991). In this case, different cognitive styles are needed. In these conditions, variability acts as a law, the neglect of which (in practice) has already led to many known negative consequences. Consideration of school teaching as a process of formation of differentiated and integrated cognitive structures of students demands to ensure its success and efficiency creating conditions for the possible combination of elements of integration and differentiation in teaching, i.e. compliance with a reasonable dynamic balance.

The main research methods:

- a comparative analysis of the theoretical concepts of differentiated and integrated approaches to teaching;
- synthesis of the theoretical data on dynamic balance theory, differentiated and integrated approaches to integrative-differential approach to teaching rural students;
- theoretical modelling implementing the integrative-differentiated approach of the rural students' teaching strategies;
- a psycho-pedagogical experiment on the effectiveness of the strategy of level-and-style differentiation in the framework of modular training and their impact in terms of requirements of the Federal State Education Standards and new educational results;
- statistical and mathematical methods of analysis of the multi-stage psycho-pedagogical experiment (over 20 years).

RESULTS

Current research results

The obtained research results allow to speak about the solution of the pedagogical problem which consists in holistic understanding of the unity of integration and differentiation in pedagogical reality of rural schools through the development of the concept and mechanisms of realization of the integrative-differentiated approach to teaching.

Identification of the factors influencing the learning of rural students and contributing to the realization of the integrative-differentiated approach

- small number of students in the class and a rural school in general, which ensures the correlation of psycho-physiological and individual peculiarities of pupils and the possibility of combining students into groups (including different ages) for targeted development of cognitive and social competencies;
- multidisciplinary teaching, which creates favorable conditions for the implementation of the methodological and substantive integration combined with differentiation of the subject;
- specificity of socio-cultural, economic and natural environment of the educational institution located in rural areas, contributing to the introduction of school relevant educational content in educational process.

The formulation of the concept of education of rural schoolchildren on the basis of the integrative-differentiated approach in a rural school, the core of which is a system of principles:

- the principle of harmonizing involving the integrated and consistent use of differentiation and integration characteristic of teaching in a rural school;
- the systematic principle providing realization of integrative-differentiated approach as a system;
- the principle of taking into account the factors of education in a rural school requiring the use of specific didactic system;

- the principle of adaptability, which is realized by level-and-style differentiation in the framework of modular training.

The principles are concretized in a set of rules and recommendations for teachers.

The rationale and development of a model of didactic system of a teacher of a rural school, each component of which is characterized by the presence of the integrative-differentiated processes:

- methodological component includes the patterns and principles that reflect the specific conditions of teaching in a rural school;

- target orientation involves teaching aimed at solving tasks personally significant for students in a rural school in terms of social order of the surrounding community;

- content component is a combination invariant (standard) and variable information (including the related issues of agricultural, environmental issues in the form of multi-level objectives of the integrated nature) and is the basis for the formation of cognitive and social competencies of a rural student;

- technological component is implemented through the use of strategy of level-and-style differentiation in the framework of modular training based on the cognitive style of the student as his specific trait;

- effective component reflects the formation of cognitive and social competencies as qualities of a viable person in rural society.

The model of the didactic system is the basis of the unity of integration and differentiation in teaching rural students (Korshunova, 2014).

The development of level-and-style differentiation within the modular technology as a way to improve the quality of education of rural students.

Modular technology gives qualitatively new results when it is applied in the framework of both level and style differentiation. The latter is tailored to the individual cognitive strategies of the student on the basis of results of psychological pedagogical diagnostics and individual teaching and learning technologies defined by the methods of learning selected by the student, the way the logic of educational content, comfortable modes of perception of differently coded educational information and ways of activities, tasks and exercises which differ in structure. Style differentiation is most conducive to intellectual and personal development of the learner.

The use of the three indicated technologies (level differentiation, style technology and modular training strategy)

- creates the possibility to combine students into groups of even-aged or uneven-aged composition on the basis of similarity of psycho-physiological and individual peculiarities while learning the training content for the full forming of social competence of a rural student,

- allows us to take into account an increased dependence on specific teaching environment due to the diverse differentiation of a training module on learning and the type of the student's cognitive strategy, the use of modular multi-level integrative tasks for the successful formation of cognitive competence of students (Sadovaya, 2016).

Designing the structure of the situational tasks as a form of presentation of educational content during the implementation of the integrative-differential approach reflecting the specific socio-cultural, economic and natural environment of a rural school. The tasks are considered as multiple integrative tasks which are divided into three types according to the placement of integrative information:

- the task with the elements of the integrative nature included into the requirements (when in the formulation of requirements in the task it is necessary to turn to other fields of knowledge);

- the task with the elements of the integrative nature included into the expanding content of the task and the requirements of different level of complexity (when addressing the other fields of knowledge occurs when describing the task situation and formulating the requirements);

- the task with the elements of the integrative nature included into the expanding content of the task and formulation of subject requirements of different levels of complexity on the basis of this content (when on the basis of interdisciplinary content “pure” subject requirements are put forward).

The systematic use of situational tasks with a basis in the form of a plot linked to the environment in the countryside contributes to the formation of his cognitive and social competencies.

Professional formation and development of a rural school teacher, which is expressed in his readiness and ability to implement training in conditions of an inconsiderable number of students and multidisciplinary teaching, the use of the level-and-style differentiation in terms of modular technology, productive team cooperation of the invited specialists, the development of situational tasks.

The professional teacher’s development is provided by

- the conditions for the adoption of the rural student education concept ideas on the basis of the approach;

- the individual methodical systems within the concept;

- the gradual transfer of them to the level of personal technology, given the variability of the educational situation;

- actual school practice through the application of the developed teaching materials with specific components which reflect the teaching peculiarities in a rural school.

The definition of the quality of education of rural students through the monitoring of key competencies, especially cognitive and social ones:

- Cognitive competence can be determined through such indicators as the degree on the subject, cognitive autonomy, students’ satisfaction with learning and their academic achievements.

- Social competence is expressed through the student’s awareness of themselves as a responsible, organized, hardworking subject of rural society, the future owner of the land. This competence is associated with the social impact of this approach, which is to change the role of a rural school as a center of education and preserve the best cultural traditions of the village, education of workers of agricultural industry.

The identification of tendencies of systemic changes in the educational process in terms of the integrative-differentiated approach in a rural school

in relation to the student:

- increased level of cognitive competence reflected in the increased motivation of learning, level of cognitive interest, activity; positive dynamics of knowledge and skills (“strength”, “efficiency”, “transfer”) based on them; subject competencies; the acquired abilities to think independently and act in accordance with their educational opportunities when solving problems connected with the elements of the selected module; increased level of satisfaction with the training process;

- increased level of social competence reflected in the development of interpersonal skills, ability to work in a team when interacting in groups, diligence, organization; acquired ability to choose and take the responsibility;

in relation to the teacher:

the teacher’s improved professional competence is reflected in

- the increased volume and quality of theoretical knowledge and skills in the field of related subjects taught by the teacher.

- willingness and ability to develop innovative solutions through the application of technologies of level, modular and style teaching;
- awareness of the individual style of professional activity by determining his cognitive strategy;
- increased level of methodological and research knowledge and skills;
- obtaining consistent positive learning outcomes in the rural school specific conditions;
- the acquisition of skills to track the personal development of students through the use of intended evaluation criteria of academic achievements (self-evaluation scoring, peer and modular assessment, "energy" and level evaluation).

The wording of laws of teaching process changes based on the identified trends:

- application of the integrative-differentiated approach increases the degree of individualization and integration of educational process in a rural school, i.e., on the one hand, it allows to take into account interests, learning opportunities, abilities of each student, on the basis of which to build individual educational trajectory within the subject and implement the idea of the profile; on the other hand, to provide a unified educational environment of a rural school taking into account the characteristics of its immediate environment, intelligent integration and combination of existing educational resources and reserves in order to increase the efficiency of formation of cognitive and social competencies of a rural student;
- an instructional system model for rural school teachers on the approach implementation is applicable to any subject and effectively provides the abovementioned trends in the condition of its personalization in accordance with the adaptive-differentiating factors of the educational situation, namely: accounting for variability in individual-personal characteristics of students and teachers, the material and technical base of the school, its environment, traditions of interaction between members of the teaching staff, the specifics of the subject, etc.;
- the use of level and style differentiation within the modular training systematically affects the development of cognitive and social competences of students: the increased motivation and satisfaction of the student with learning enlarge knowledge in the subject, cognitive autonomy, the ability to solve interdisciplinary tasks, and the variability of group learning promotes the development of communicative skills, diligence, orderliness, the ability to choose and bear responsibility for it.

The advantage of our approach is that it allows

- to significantly upgrade the educational process in a rural school,
- to ensure the profiling of rural educational institutions with the formation of individual trajectory of education and the development of the rural student's qualities that are in demand today (responsibility, independence, initiative, system thinking, etc.),
- to educate a rural worker, prudent owner of the land, who is competitive, able to organize profitable business in rural areas.

DISCUSSION

The problem of the integrative-differentiated approach was developed on the basis of the following ideas of balance pedagogy:

- N. I. V'unova's (1999) ideas about integration and differentiation in the system of psychological-pedagogical education;
- M. N. Gladkova's (2004) view on the integrative-differentiated approach to teaching pedagogical disciplines to university students;
- V. F. Morgun's (1995) ideas about the unity of integration and differentiation in education – "intedifii";

- T. A. Korobkova, P. V. Skulova & A. A. Ostapenko (2001), and their successors' points of view who contributed to the development of the integrative-differentiated approach at different levels of education.

The problem of the integrative-differentiated approach for a rural school was developed on the basis of the ideas about activity of a rural educational organization. The ideas belong to:

- G. A. Ashikhmina (2004) & L. V. Baiborodova (2004), they write about the education technology in a rural school, the rural teachers training;
- V. G. Bocharova (2004), her ideas about a rural school as a socio-pedagogical institution;
- M. T. Gur'yanova's (2004) views on the regionally differentiated approach to the organization of activity in rural schools;
- M. I. Zaykin (1991), who describes technological approaches to teaching in a rural school;
- G. H. Sillaste's (2003) opinion on the social features of rural society;
- A. M. Tsurulnikov (1994), organizational variability of a rural school;
- R. M. Sheraizina (1994) who expresses ideas about rural school teacher training;
- G. A. Fedotova (2004) who distinguishes the features of a rural child.

Despite the value of the available research results, the integrative-differentiated approach has not been scientifically developed in relation to teaching rural students taking into consideration the peculiarities of the educational environment of a rural education institution.

CONCLUSION

The above provisions are the starting point in the development of an integrated design of modern educational process in a rural school. The strategy of level-and-style differentiation in the framework of the modular training is able to provide the necessary conditions to meet the requirements of the FSES concerning the achievement of new educational results. The methodological principles of balance pedagogy and the technology developed from the point of view of its structure and content determine all the components of the corresponding, new didactic process. At the present time, the developed technologies are tested in the practice of teaching. For example, for ten years (since 2006), teachers have been taking distance refresher courses aimed to apply the proprietary strategy of the level-and-style differentiation in modular training (Moscow, Pedagogical University "The First of September") (Korshunova, 2016).

A set of research problems being solved in the paper allows to speak about the development of a new direction of the educational process in a rural school which integrates traditional and innovative approaches to the development of the coherent personality of the student in the educational process with a high degree of integration and differentiation.

The study has prognostic significance as it creates the prerequisites for further scientific research in the study of

- problems of profile training in a rural (and especially inconsiderate in number) school,
- the establishment and functioning of student-centered and interdisciplinary components of teaching materials for rural schools,
- the development of didactic components on the basis of psychodidactic approaches, content and technologies of teacher training in the context of the research problem.

In prospect of the research are the problems of implementation of the formulated ideas and technology in the educational process in conditions of others educational institutions different from rural schools.

RECOMMENDATIONS

The article and the research result described can be used to modernize the educational process in educational institutions in rural areas in the ensured conditions of the achievement of new educational results in accordance with FSES.

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